

1. An embedded device configured to provide an audio status output, the embedded device comprising:

a processor;

an input button in electronic communication with the processor;

5 a speaker in electronic communication with the processor for outputting an audio output;

memory in electronic communication with the processor for storing data; and

an audio output generator stored in the memory and implementing a method comprising:

receiving a generate audio command initiated by a user through use of the input

button in electronic communication with the processor;

10 accessing status data stored in the memory;

converting the status data to audio output data through use of an audio generation table, the audio output data comprising a plurality of distinct audio signals that are machine-decipherable and that correspond to individual data elements of the status data; and

15 providing the audio output data to the speaker such that the audio output based on the audio output data is generated.

2. The embedded device as defined in claim 1, wherein the embedded device is a microcontroller-based device.

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3. The embedded device as defined in claim 1, wherein the audio output comprises DTMF tones.

4. The embedded device as defined in claim 1, wherein the status data includes dynamic device-specific input/output data.

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5. The embedded device as defined in claim 1, wherein the status data includes state data.

6. The embedded device as defined in claim 1, wherein the status data is comprised of individual data elements, and wherein the audio generation table includes an audio translation for each of the individual data elements.
- 5 7. The embedded device as defined in claim 1, wherein the embedded device is a television.
8. The embedded device as defined in claim 1, wherein the embedded device is a consumer electronics device.

9. A system for providing an audio status output describing an embedded device to an audio status collector over a communication network, the system comprising:

an embedded device configured to generate the audio status output comprising:

a processor;

5 an input button in electronic communication with the processor;

a speaker in electronic communication with the processor for outputting an audio output;

memory in electronic communication with the processor for storing data; and

10 an audio output generator stored in the memory and implementing a method comprising:

receiving a generate audio command initiated by a user through use of the input button in electronic communication with the processor;

accessing status data stored in the memory;

15 converting the status data to audio output data through use of an audio generation table, the audio output data comprising a plurality of distinct audio signals that are machine-decipherable and that correspond to individual data elements of the status data; and

providing the audio output data to the speaker such that the audio output based on the audio output data is generated; and

20 an audio status collector comprising:

an audio decoder for decoding the audio output;

a communications module for connecting to and listening on the communication network, the communications module in electronic communication with the audio decoder; and

25 an audio decoding table for use by the audio decoder in decoding the audio output, whereby the audio decoder hears the audio output and decodes the audio output to obtain the status data.

10. The system as defined in claim 9, wherein the embedded device is a microcontroller-based device.

11. The system as defined in claim 9, wherein the audio output comprises DTMF tones.

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12. The system as defined in claim 9, wherein the status data includes dynamic device-specific input/output data.

13. The system as defined in claim 9, wherein the status data includes state data.

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14. The system as defined in claim 9, wherein the status data is comprised of individual data elements, and wherein the audio generation table includes an audio translation for each of the individual data elements.

15. A method for providing an audio status output describing an embedded device to an audio status collector over a communication network, the method comprising:

providing an embedded device configured to generate the audio status output;

processing inputs of the embedded device to provide status data that describes operation
5 of the embedded device;

receiving a generate audio command initiated by a user through use of an input button of
the embedded device in electronic communication with a processor of the
embedded device;

accessing the status data stored in memory of the embedded device;

10 converting the status data to audio output data through use of an audio generation table,
the audio output data comprising a plurality of distinct audio signals that are
machine-decipherable and that correspond to individual data elements of the
status data; and

providing the audio output data to a speaker of the embedded device such that the audio
15 output based on the audio output data is generated;

communicating the audio output to an audio status collector via the communication
network; and

decoding the audio output by an audio decoder of the audio status collector through use of
an audio decoding table to obtain the status data.

20 16. The method as defined in claim 15, wherein the embedded device is a television.

17. The method as defined in claim 15, wherein the embedded device is a consumer electronics
device.

25 18. The method as defined in claim 15, wherein the communication network is a telephone
network.

19. The method as defined in claim 15, wherein the communication network is a cellular

telephone network.

20. The method as defined in claim 15, wherein the communication network is a radio network.